

This listing of claims will replace the prior version in the application.

Claims

1. (currently amended) Process for the formation of a coating of metal oxides comprising at least one precious metal from Group VIII of the Periodic Table of the elements, ~~optionally in combination with titanium and/or zirconium~~, on an electrically conductive substrate; the said process consisting in applying, to the said substrate, a solution comprising at least one organometallic compound and in then converting the said at least one organometallic compound(s) to at least one metal oxide(s) by means of a heat treatment; the said process being characterized in that the electrically conductive substrate is made of steel or of iron and in that the sole solution applied to the said substrate is a non-aqueous solution of one or more metal acetylacetonate ~~or of a mixture of metal-acetylacetonates~~ dissolved in a ~~(plurality of) solvent(s)~~ one or more solvents which specifically dissolve(s) ~~each said one or more metal acetylacetonates~~, the one or more solvent(s) solvents being chosen from alcohols, ketones, chloromethanes ~~or a and mixtures of two or more solvents mentioned above thereof~~.
2. (currently amended) Process according to Claim 1, characterized in that the precious metal from Group VIII of the Periodic Table of the elements is selected from ruthenium, rhodium, palladium, osmium, iridium ~~or~~ and platinum.
3. (currently amended) Process according to Claim 2, characterized in that the precious metal is selected from ruthenium ~~or~~ and iridium.
4. (previously presented) Process according to Claim 3, characterized in that the precious metal is ruthenium.
5. (currently amended) Process according to Claim 1, characterized in that the alcohol is selected from ethanol ~~or~~ and isopropanol.

6. (previously presented) Process according to Claim 1, characterized in that the ketone is acetone.
7. (previously presented) Process according to Claim 1, characterized in that the chloromethane is chloroform.
8. (currently amended) Process according to ~~any one of Claims 1 to 7~~ Claim 1, characterized in that the metal acetylacetonate solution is obtained by dissolution of the said metal acetylacetonate in its one or more specific solvents or in a mixture of solvents ~~comprising the specific solvent~~.
9. (currently amended) Process according to ~~any one of Claims 1 to 7~~ Claim 1, characterized in that the said solution ~~comprising several~~ of one or more metal acetylacetonates is obtained[[:
 - either]] by dissolution of the said one or more metal acetylacetonates in a mixture of said one or more solvents ~~comprising the specific solvents for the said metal acetylacetonates;~~

~~or by mixing solutions comprising only a single metal acetylacetonate which are obtained by dissolution of the said metal acetylacetonate in a specific solvent or in a mixture of solvents comprising the specific solvent for the said acetylacetonate.~~
10. (currently amended) Process according to ~~any one of Claims 1 to 9~~ Claim 1, characterized in that, ~~in order to obtain the coating of metal oxide(s), the~~ said electrically conductive substrate made of steel or of iron is pretreated, in a first stage, and then, in a second stage, the solution comprising the one or more metal ~~acetylacetonate(s)~~ acetylacetonates is deposited on the said pretreated substrate and the substrate thus coated is dried and then calcined.

11. (currently amended) Process according to Claim 10, characterized in that the drying is carried out at a temperature ~~at most equal~~ of up to 150°C.
12. (currently amended) Process according to Claim 10, characterized in that the substrate coated by the one or more metal ~~acetylacetonate(s)~~ acetylacetonates is calcined under air or ~~else under~~ an inert gas enriched with oxygen, at a temperature at least equal to 300°C and ~~preferably at a temperature of between 400°C and 600°C~~, for a period of time ranging from 10 minutes to 2 hours.
13. (currently amended) Process according to Claim 10, characterized in that the second stage is repeated at least once and ~~is preferably repeated between 2 and 6 times~~.
14. (currently amended) Electrically conductive substrate made of steel or of iron carrying a coating of metal oxides which is formed by means of a process according to ~~one of Claims 1 to 13~~ Claim 1.
15. (previously presented) Use of the electrically conductive substrate according to Claim 14 in the production of an activated cathode.
16. (previously presented) Use of an activated cathode according to Claim 15, in the electrolysis of aqueous solutions of alkali metal chlorides.
17. (previously presented) Use according to Claim 16, characterized in that the aqueous solutions of alkali metal chlorides are aqueous sodium chloride solutions.
18. (previously presented) Process for the manufacture of chlorine and alkali metal hydroxide by electrolysis of the corresponding chloride by means of a cathode according to Claim 15.

19. (previously presented) Process for the manufacture of alkali metal chlorates by electrolysis of the corresponding chloride by means of a cathode according to Claim 15.
20. (new) Process according to Claim 1, characterized in that said at least one precious metal form Group VIII of the periodic Table of the elements is combined with titanium, zirconium or mixtures thereof.
21. (new) Process according to Claim 1 characterized in that said solution comprising several metal acetylacetonates is obtained by mixing solutions comprising a single metal acetylacetonate which is obtained by dissolution of the said metal acetylacetonate in a specific solvent or in a mixture thereof.
22. (new) Process according to Claim 10, characterized in that the substrate coated by the one or more metal acetylacetonates is calcined under air or an inert gas enriched with oxygen, at a temperature of between 400°C and 600°C, for a period of time ranging from 10 minutes to 2 hours.
23. (new) Process according to Claim 10, characterized in that the second stage is repeated between 2 and 6 times.

Respectfully submitted,



Steven D. Boyd
Attorney for the Applicants
Reg. No. 31,000

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Arkema, Inc.
2000 Market Street
Philadelphia, PA 19103-3222
Tel (215) 419-5270
Fax (215) 419-7075